REMARKS

Claims 1–42 were pending in the present application. Applicant amends Claims 1, 13, 41 and 42, and adds new Claim 43. Claims 9 and 37 are canceled. Claims 1–8, 10-36 and 38-43 are pending. No new matter is introduced by the amendments. Support for the amendments is found, at least, in Figures 12, 20, 29, 31 and 33 and the description therefor, in addition to page 12, 49 and 50 of the specification as filed. The new Claim 43 is supported by at least page 50 of the specification. In light of the amendments and the reasons set forth below, Applicant believes that the present application is in condition for allowance, for which prompt and favorable action is respectfully requested.

Interview on August 2, 2011

Applicant wishes to thank Examiner Jack Yip and Supervisor Xuan Thai for the courtesy extended to Applicant's representatives in the in-person interview conducted on August 2, 2011. Applicant believes that considerable progress toward allowance of the claims was made during the interview.

Discussion of Rejection under 35 U.S.C. § 112, first paragraph

Claim 37 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Claim 37 has been canceled. Accordingly, Applicant respectfully requests withdrawal of this rejection.

Discussion of Rejections under 35 U.S.C. § 103(a)

Claims 1-3, 5-6, 9-10, 28-29, 36, and 38-39 are rejected under 35 U.S.C. § 103(a) as being obvious over Donahue (U.S. Patent Application Publication No. 2003/0039948) in view of Best et al. (U.S. Patent No. 6,676,413). Claim 37 is rejected under 35 U.S.C. § 103(a) as being obvious over Donahue in view of Best et al. and Policastro et al. (U.S. Patent No. 6,915,286). Claims 4, 11 and 12 are rejected under 35 U.S.C. § 103(a) as being obvious over Donahue in view of Best et al. and Bejar et al. (U.S. Patent No. 6,526,258). **Claims 7-8, 13**-18, 30-35 are rejected under 35 U.S.C. § 103(a) as being obvious over Donahue in view of Best et al. (the Office Action appears to mistakenly list Bejar et al. on page 8 but applies Best et al. on page 10)

and "Keeping Mozart in Mind" by Gordon Shaw (copyright 2000). **Claims 19**-20 and **24**-25 are rejected under 35 U.S.C. § 103(a) as being obvious over Donahue in view of Sugimoto (U.S. Patent Application Publication No. 2002/0102522). Claim 40 is rejected under 35 U.S.C. § 103(a) as being obvious over Donahue in view of Sugimoto and Best et al. Claims 21-22 and 26-27 are rejected under 35 U.S.C. § 103(a) as being obvious over Donahue and Thomas (U.S. Patent No. 6,514,084) in view of Mizume et al. (U.S. Patent Application Publication No. 2004/0033475). The Office Action lists Sugimoto in place of Thomas in the summary of the rejection on page 16, but applies Thomas in the body of the rejection. **Claim 23** is rejected under 35 U.S.C. § 103(a) as being obvious over Donahue in view of Sugimoto, "Keeping Mozart in Mind" by Gordon Shaw and Calhoun et al. (U.S. Patent Application Publication No. 2003/0059759). **Claims 41-42** are rejected under 35 U.S.C. § 103(a) as being obvious over Lai et al. (U.S. Patent Application Publication 2004/0005536) in view of Ferriol et al. (U.S. Patent Application Publication No. 2003/0129574). The independent claims are Claim 1, 13, 19, 23, 24, 41 and 42.

Applicant respectfully submits that, as stated in the M.P.E.P. at § 2143, "The rationale to support a conclusion that the claim would have been obvious is that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination yielded nothing more than predictable results to one of ordinary skill in the art." *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398 (2007) (emphasis added). Applicant further submits that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." *Id.* at 418. Rather, as stated in the M.P.E.P. at § 2143.01, "there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *Id.* at 419 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)). Applicant respectfully submits each of the claims include at least one element not disclosed or suggested by the prior art.

Independent Claims 19 and 24 with respect to Sugimoto

Regarding the feature "extrapolating the best fit curve to determine whether the threshold passing score will be reached within a maximum allotted number of times of taking the quiz" of

independent Claims 19 and 24, the Examiner states that Sugimoto, at S29 of Figure 14, teaches "Number of output question >= Maximum number of output questions". Figure 14 shows a flow for a test that distinguishes solvers, and S29 is a decision state that moves the process flow to another part of the test where additional questions are asked. However, Applicant respectfully submits that Sugimoto teaches determining the time to answer a question and calculating a new time limit for answering question for the solvers who are weak in pressure to time limits (see Sugimoto, Figure 13). Thus the time discussed in Sugimoto concerns time limits for answering questions, which is completely different than the "number of times of taking the quiz". Therefore, Sugimoto does not disclose at least this feature, and Applicant respectfully submits that Claims 19 and 24 are patentable.

Independent Claim 23 with respect to Donahue and Shaw

Claim 23 includes, for example, the features: "determining that the game is deficient if the game score is not commensurate with the diagnostic quiz score" and "determining adjustments to the game or the diagnostic quiz based on the comparison of the game score to the diagnostic quiz score if the game is deficient". The Examiner has identified the Shaw book at pages 22-28, 189 and 275 and states that "Shaw further teaches determining that the game is deficient if the game score is not commensurate with the diagnostic quiz score, and determining adjustments to the game". However, Claim 23 recites "determining adjustments to the game or the diagnostic quiz based on the comparison of the game score to the diagnostic quiz score if the game is deficient". Furthermore, cited portions of Shaw do not describe how a game was developed such as testing the game, determining if the game is deficient, and redesign of the game if the game is deficient. Therefore, Shaw does not disclose at least these features.

Moreover, Claim 23 recites in part: "analyzing the progress curve to determine whether it indicates successful learning and retention of the mathematical concept". The Examiner states that Donahue does not show "using the progress curve to determine learning and retention of the concept", and the other cited references do not show this feature.

Therefore, in view of the above discussion, Applicant respectfully submits that Claim 23 is patentable.

Independent Claim 41 with respect to Lai and Ferriol

By way of example, amended Claim 41 recites in part: "analyzing the passing score of the student and the at least one subsequent quiz score to generate a learning curve based on the scores and determine whether a deviation in a learning rate exists". The Examiner has identified Lai, Figures 3B-3C and 5C as teaching this feature. In Lai, scores are not used to generate a learning curve, and determining a deviation in a learning rate is not disclosed by Lai.

Regarding the feature, "calculating a best fit curve to the learning curve" of Claim 41, the Examiner has identified Lai, Figure 3B and paragraphs 45-46. However, this does not disclose calculating a best fit curve to the learning curve since there are not two separate types of curves shown in Lai. The cited portion of Lai describes storing incorrect responses for a set of subtests in a database. Therefore, Lai does not describe at least this feature.

Regarding the feature, "determining a slope of the best fit curve" of Claim 41, the Examiner has identified Ferriol, paragraph 493. However, the cited text of Ferriol does not disclose determining a slope of the best fit curve, but merely discusses applying a filter based on several factors including an item difficulty. Therefore, Ferriol does not describe at least this feature.

Claim 41 recites in part: "generating feedback data based on the determination of whether the slope of the best fit curve is greater or equal to a minimum slope for the quiz". The Examiner has identified Ferriol, paragraph 43, as teaching this feature and states that Ferriol describes "any other method to determine the measurement of item difficulty, and using a statistical linear model based on analysis of previous user data." However, the claimed feature does not concern an item difficulty. Ferriol does not discuss a minimum slope in the cited text, and therefore, does not teach determination of whether the slope of the best fit curve is greater or equal to a minimum slope for the quiz.

Therefore, neither Lai nor Ferriol nor their combination teach or suggest the above-discussed features, and Applicant respectfully submits that Claim 41 is patentable.

Independent Claim 42 with respect to Lai and Ferriol

The comments above for Claim 41 apply here with equal force.

Furthermore, regarding the feature, "comparing the learning curve of the student to a standard curve for the quiz, wherein each particular quiz has a corresponding standard curve", the Examiner appears to identify Ferriol, paragraph 356, and equates "the sequencing of learning items" to be the standard curve. However, this does not disclose comparing the learning curve of the student to a standard curve for the quiz, wherein each particular quiz has a corresponding standard curve, especially since there is no discussion of where each particular quiz has a corresponding standard curve. Consequently, since the comparison of the learning curve of the student to a standard curve for the quiz, wherein each particular quiz has a corresponding standard curve is not disclosed in Ferriol, the feature "generating feedback data regarding the stage of learning for the student based on the comparison" is also not shown in Ferriol.

Therefore, Applicant respectfully submits that neither Lai nor Ferriol nor their combination teaches or suggest the above-discussed features, and respectfully submits that Claim 42 is patentable.

Independent Claim 1 with respect to Donahue and Best

Claim 1 has been amended to recite in part: "wherein the analysis data includes a learning curve and a corresponding best fit curve". Applicant respectfully submits that neither Donahue nor Best teaches this feature. Donahue only mentions that "[t]he particular location of the user on a learning curve (a graphic proficiency indicator) may be helpful to the user as an inspiration to go forward." There is no further discussion of the use of the Donahue learning curve. Therefore, Applicant respectfully submits that neither Donahue nor Best nor their combination discloses each element of independent Claim 1 and that Claim 1 is thus patentable.

Independent Claim 13 with respect to Donahue, Best and Shaw

Claim 13 has been amended to recite in part: "wherein analysis of the student performance data comprises comparing the student performance data to a standard curve for the performance evaluation". Applicant respectfully submits that neither Donahue nor Best nor Shaw teaches a standard curve for the student performance evaluation or comparing the student performance data to the standard curve. Therefore, Applicant respectfully submits that neither

Donahue nor Best nor Shaw nor their combination discloses each element of independent Claim 13 and that Claim 13 is thus patentable.

Dependent Claims

Although Applicant has not addressed the issues of all the dependent claims, Applicant respectfully submits that Applicant does not necessarily agree with the characterization and assessments of the dependent claims made by the Examiner, and Applicant believes that each claim is patentable on its own merits. The dependent claims are dependent either directly or indirectly from one of the above-discussed independent claims. Applicant therefore respectfully submits that pursuant to 35 U.S.C. § 112, ¶4, the dependent claims incorporate by reference all the limitations of the claim to which they refer and include their own patentable features, and are therefore in condition for allowance. Therefore, Applicant respectfully requests the withdrawal of all claim rejections and the prompt allowance of the claims.

New Claim

New Claim 43 has been added. The new claim adds no new matter. The new claim is supported by at least page 50 of the specification as filed. Applicant respectfully submits that the cited references do not show the elements of the new claim and, therefore, the claim is patentable.

Conclusion

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not

reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Applicant has endeavored to address all of the Examiner's concerns as expressed in the outstanding Office Action. In light of the above amendments and remarks, reconsideration and withdrawal of the outstanding rejections are specifically requested. The undersigned has made a good faith effort to respond to all of the noted rejections and to place the claims in condition for immediate allowance. Nevertheless, if any undeveloped issues remain or if an issue requires clarification, the Examiner is respectfully requested to call Applicant's attorney in order to resolve any such issue promptly.

Applicant respectfully traverses each of the Examiner's rejections and each of the Examiner's assertions regarding what the prior art discloses or teaches, even if not expressly discussed herein. Although changes to the claims have been made, no acquiescence or estoppel is or should be implied thereby; such amendments are made only to expedite prosecution of the present application and are without prejudice to the presentation or assertion, in the future, of claims relating to the same or similar subject matter.

Any remarks in support of patentability of one claim should not be imputed to any other claim in this or a related application, even if similar terminology is used. Any remarks referring to only a portion of a claim should not be understood to base patentability on solely that portion; rather, patentability must rest on each claim taken as a whole. Applicant has not presented all arguments concerning whether the applied references can be properly combined in view of the clearly missing elements noted above, and Applicant reserves the right to later contest whether a proper reason exists to combine these references.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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